 ASSIGNMENT

WORKSHEET 1 SQL

# Q1 and Q2 have one or more correct answer. Choose all the correct option to answer your question.

1. Which of the following is/are DDL commands in SQL?
   1. Create B) Update

C) Delete D) ALTER

1. Which of the following is/are DML commands in SQL?
   1. Update B) Delete

C) Select D) Drop

# Q3 to Q10 have only one correct answer. Choose the correct option to answer your question.

1. Full form of SQL is:
   1. Strut querying language B) Structured Query Language

C) Simple Query Language D) None of them

1. Full form of DDL is:
   1. Descriptive Designed Language B) Data Definition Language

C) Data Descriptive Language D) None of the above.

1. DML is:
   1. Data Manipulation Language B) Data Management Language

C) Data Modeling Language D) None of these

1. Which of the following statements can be used to create a table with column B int type and C float type?
   1. Table A (B int, C float) B) Create A (b int, C float)

C) Create Table A (B int,C float) D) All of them

1. Which of the following statements can be used to add a column D (float type) to the table A created above?
   1. Table A ( D float) B) Alter Table A ADD COLUMN D float

C) Table A( B int, C float, D float) D) None of them

1. Which of the following statements can be used to drop the column added in the above question?
   1. Table A Drop D B) Alter Table A Drop Column D

C) Delete D from A D) None of them

1. Which of the following statements can be used to change the data type (from float to int ) of the column Dof table A created in above questions?
   1. Table A (D float int) B) Alter Table A Alter Column D int

C) Alter Table A D float int D) Alter table A Column D float to int

1. Suppose we want to make Column B of Table A as primary key of the table. By which of the following statements we can do it?
   1. Alter Table A Add Constraint Primary Key B B) Alter table (B primary key)

C) Alter Table A Add Primary key B D) None of them

# Q11 to Q15 are subjective answer type questions, Answer them briefly.

1. What is data-warehouse?

Ans. A **Data Warehousing** (DW) is process for collecting and managing data from varied sources to provide meaningful business insights. A Data warehouse is typically used to connect and analyze business data from heterogeneous sources. The data warehouse is the core of the BI system which is built for data analysis and reporting.

It is a blend of technologies and components which aids the strategic use of data. It is electronic storage of a large amount of information by a business which is designed for query and analysis instead of transaction processing. It is a process of transforming data into information and making it available to users in a timely manner to make a difference.

1. What is the difference between OLTP VS OLAP?

Ans.

|  |  |  |
| --- | --- | --- |
|  | **OLTP**  **(Online Transactional Processing)** | **OLAP**  **(Online Analytical Processing)** |
| **Functionality** | Manages transactions that modify data in databases. | Used for analytical and reporting purposes. |
| **Source** | Real-time transactions of organizations. | Data is consolidated from various OLTP databases. |
| **Storage format** | Tabular form in Relational Databases. | Multidimensional form in OLAP cubes. |
| **Operation** | Read and write | Read-only |
| **Response time** | Fast processing since queries are simple. | Slower than OLTP |
| **Users** | Executives, Data scientists | Programmers, Database professionals |

1. What are the various characteristics of data-warehouse?

Ans. The various characteristics of data warehouse is as follows:

**1. Subject oriented**

A data warehouse is subject-oriented, as it provides information on a topic rather than the ongoing operations of organizations. Such issues may be inventory, promotion, storage, etc. Never does a data warehouse concentrate on the current processes. Instead, it emphasized modeling and analyzing decision-making data. It also provides a simple and succinct description of the particular subject by excluding details that would not be useful in helping the decision process.

**2. Integrated**

Integration in Data Warehouse means establishing a standard unit of measurement from the different databases for all the similar data. The data must also get stored in a simple and universally acceptable manner within the Data Warehouse. Through combining data from various sources such as a mainframe, relational databases, flat files, etc., a data warehouse is created. It must also keep the naming conventions, format, and coding consistent. Such an application assists in robust data analysis. Consistency must be maintained in naming conventions, measurements of characteristics, specification of encoding, etc.

**3. Time-variant**

Compared to operating systems, the time horizon for the data warehouse is quite extensive. The data collected in a data warehouse is acknowledged over a given period and provides historical information. It contains a temporal element, either explicitly or implicitly.

One such location in the record key system where Data Warehouse data shows time variation is. Each primary key contained with the DW should have an element of time either implicitly or explicitly. Just like the day, the month of the week, etc.

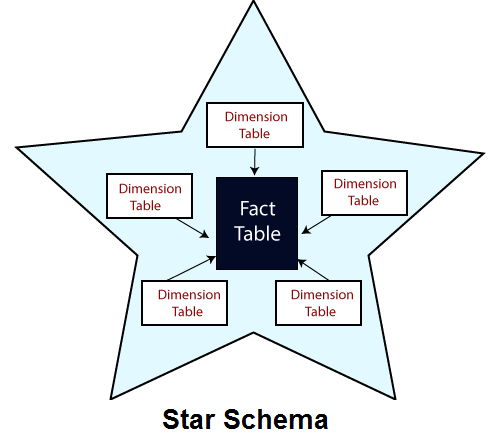
**4. Non-volatile**

Also, the data warehouse is non-volatile, meaning that prior data will not be erased when new data are entered into it. Data is read-only, only updated regularly. It also assists in analyzing historical data and in understanding what and when it happened. The transaction process, recovery, and competitiveness control mechanisms are not required. In the Data Warehouse environment, activities such as deleting, updating, and inserting that are performed in an operational application environment are omitted.

1. What is Star-Schema?

Ans. A star schema is the elementary form of a dimensional model, in which data are organized into **facts** and **dimensions**. A fact is an event that is counted or measured, such as a sale or log in. A dimension includes reference data about the fact, such as date, item, or customer.

A star schema is a relational schema where a relational schema whose design represents a multidimensional data model. The star schema is the explicit data warehouse schema. It is known as **star schema** because the entity-relationship diagram of this schemas simulates a star, with points, diverge from a central table. The center of the schema consists of a large fact table, and the points of the star are the dimension tables.



1. What do you mean by SETL?

Ans. SETL (SET Language) is a [very high-level programming language](https://en.wikipedia.org/wiki/Very_high-level_programming_language) based on the mathematical [theory of sets](https://en.wikipedia.org/wiki/Set_theory). It was originally developed by (Jack) [Jacob T. Schwartz](https://en.wikipedia.org/wiki/Jacob_T._Schwartz) at the [New York University](https://en.wikipedia.org/wiki/New_York_University) (NYU) [Courant Institute of Mathematical Sciences](https://en.wikipedia.org/wiki/Courant_Institute_of_Mathematical_Sciences) in the late 1960s.

SETL provides two basic aggregate data types: *unordered sets*, and *sequences* (the latter also called *tuples*). The elements of sets and tuples can be of any arbitrary type, including sets and tuples themselves. *Maps* are provided as sets of *pairs* (i.e., tuples of length 2) and can have arbitrary domain and range types. Primitive operations in SETL include set membership, union, intersection, and power set construction, among others.

SETL provides quantified boolean expressions constructed using the [universal](https://en.wikipedia.org/wiki/Universal_quantifier) and [existential quantifiers](https://en.wikipedia.org/wiki/Existential_quantifier) of [first-order predicate logic](https://en.wikipedia.org/wiki/First-order_predicate_logic).

SETL provides several [iterators](https://en.wikipedia.org/wiki/Iterator) to produce a variety of loops over aggregate data structures.